

Exploration through video games

Gómez Maureira, M.A.

Citation

Gómez Maureira, M. A. (2023, April 26). *Exploration through video games*. Retrieved from https://hdl.handle.net/1887/3594721

Version: Publisher's Version

Licence agreement concerning inclusion of doctoral

License: thesis in the Institutional Repository of the University

of Leiden

Downloaded from: https://hdl.handle.net/1887/3594721

Note: To cite this publication please use the final published version (if applicable).

Bibliography

- Alexander, Christopher. 1977. A Pattern Language: Towns, Buildings, Construction. Oxford university press.
- Altieri, Linda, Daniela Cocchi, and Giulia Roli. 2019. "Advances in Spatial Entropy Measures." *Stochastic Environmental Research and Risk Assessment* 33 (4): 1223–40. ht tps://doi.org/10.1007/s00477-019-01686-y.
- Amandine Entertainment. 2019. "Digger." https://assetstore.unity.com/packages/tool s/terrain/digger-terrain-caves-overhangs-135178.
- Amazon. 2021. "Amazon Mechanical Turk." 2021. https://www.mturk.com/.
- Arjoranta, Jonne. 2014. "Game Definitions: A Wittgensteinian Approach." *Game Studies* 14 (1). http://gamestudies.org/1401/articles/arjoranta.
- Avedon, Elliott Morton, and Brian Sutton-Smith. 2015. *The Study of Games*. New York, N.Y.: Ishi Press.
- Ávila-Pesántez, Diego, Luis A. Rivera, and Mayra S. Alban. 2017. "Approaches for Serious Game Design: A Systematic Literature Review." *The ASEE Computers in Education (CoED) Journal* 8 (3).
- Bateman, Chris. 2016. "The Aesthetic Motives of Play." In *Emotion in Games*, 3–20. Springer.
- Bellotti, F., R. Berta, A. De Gloria, and L. Primavera. 2009. "Enhancing the Educational Value of Video Games." *Computers in Entertainment* 7 (2): 23:1–18. https://doi.org/10.1145/1541895.1541903.

- Berg Marklund, Björn. 2015. "Unpacking Digital Game-Based Learning: The Complexities of Developing and Using Educational Games." PhD Thesis, University of Skövde.
- Berlyne, Daniel E. 1954. "A Theory of Human Curiosity." *British Journal of Psychology* 45 (3): 180–91.
- ——. 1960. Conflict, Arousal, and Curiosity. McGraw-Hill Book Company.
- Bjork, Staffan, and Jussi Holopainen. 2005. *Patterns in Game Design*. 1st ed. Charles River Media Game Development Series. Hingham, Mass: Charles River Media.
- Björk, Staffan, and Jesper Juul. 2012. "Zero-Player Games Or: What We Talk about When We Talk about Players." In, 14. Madrid.
- Bogost, Ian. 2007. *Persuasive Games: The Expressive Power of Videogames*. Cambridge, MA: MIT Press.
- Bopp, Julia Ayumi, Elisa D. Mekler, and Klaus Opwis. 2016. "Negative Emotion, Positive Experience?: Emotionally Moving Moments in Digital Games." In *Proceedings of the 2016 CHI Conference on Human Factors in Computing Systems*, 2996–3006. San Jose California USA: ACM. https://doi.org/10.1145/2858036.2858227.
- Bullard, Cindy. 2016. "Level Up Intrinsic Motivation Using Gamification and Game-Based Learning." *Journal of Interdisciplinary Teacher Leadership* 1 (1): 36–39. https://doi.org/10.46767/kfp.2016-0005.
- Carlier, Stéphanie, Sara Van der Paelt, Femke Ongenae, Femke De Backere, and Filip De Turck. 2019. "Using a Serious Game to Reduce Stress and Anxiety in Children with Autism Spectrum Disorder." In *Proceedings of the 13th EAI International Conference on Pervasive Computing Technologies for Healthcare*, 452–61. Trento Italy: ACM. ht tps://doi.org/10.1145/3329189.3329237.
- Chen, Vivian Hsueh-hua, and Henry Been-Lirn Duh. 2007. "Understanding Social Interaction in World of Warcraft." In *Proceedings of the International Conference on Advances in Computer Entertainment Technology*, 21–24.
- Clarke, Rachel Ivy, Jin Ha Lee, and Neils Clark. 2017. "Why Video Game Genres Fail: A Classificatory Analysis." *Games and Culture* 12 (5): 445–65. https://doi.org/10.1177/1555412015591900.

- Costikyan, Greg. 2013. Uncertainty in Games. MIT Press.
- Cui, Guangwu, Ruimin Shen, Yingfeng Chen, Juan Zou, Shengxiang Yang, Changjie Fan, and Jinghua Zheng. 2020. "Reinforced Evolutionary Algorithms for Game Difficulty Control." In 2020 3rd International Conference on Algorithms, Computing and Artificial Intelligence, 1–7. ACAI 2020. New York, NY, USA: Association for Computing Machinery. https://doi.org/10.1145/3446132.3446165.
- Culyba, Sabrina. 2018. The Transformational Framework: A Process Tool for the Development of Transformational Games. Carnegie Mellon University.
- Day, Hy I. 1971. "Intrinsic Motivation: A New Direction in Education."
- De Freitas, Sara. 2018. "Are Games Effective Learning Tools? A Review of Educational Games." *Journal of Educational Technology & Society* 21 (2): 74–84.
- Dehpanah, Arman, Muheeb Faizan Ghori, Jonathan Gemmell, and Bamshad Mobasher.
 2021. "The Evaluation of Rating Systems in Online Free-for-All Games." In *Advances in Data Science and Information Engineering*, edited by Robert Stahlbock, Gary M. Weiss, Mahmoud Abou-Nasr, Cheng-Ying Yang, Hamid R. Arabnia, and Leonidas Deligiannidis, 131–51. Transactions on Computational Science and Computational Intelligence. Cham: Springer International Publishing. https://doi.org/10.1007/978-3-030-71704-9_9.
- Dellos, Ryan. 2015. "Kahoot! A Digital Game Resource for Learning." *International Journal of Instructional Technology and Distance Learning* 12 (4): 49–52.
- Desurvire, Heather, and Magy Seif El-Nasr. 2013. "Methods for Game User Research: Studying Player Behavior to Enhance Game Design." *IEEE Computer Graphics and Applications* 33 (4): 82–87.
- Deterding, Sebastian, Dan Dixon, Rilla Khaled, and Lennart Nacke. 2011. "From Game Design Elements to Gamefulness: Defining 'Gamification'." In *Proceedings of the 15th International Academic MindTrek Conference: Envisioning Future Media Environments*, 9–15. MindTrek '11. New York, NY, USA: Association for Computing Machinery. https://doi.org/10.1145/2181037.2181040.
- Dewey, John. 1910. *How We Think*. Lexington: D C Heath. https://doi.org/10.1037/1090 3-000.

- Donchin, Emanuel. 1995. "Video Games as Research Tools: The Space Fortress Game." *Behavior Research Methods, Instruments, & Computers* 27 (2): 217–23. https://doi.org/10.3758/BF03204735.
- Ee, Ryan Wei Xuan, Kai Zhen Yap, and Kevin Yi-Lwern Yap. 2018. "Herbopolis A Mobile Serious Game to Educate Players on Herbal Medicines." *Complementary Therapies in Medicine* 39 (August): 68–79. https://doi.org/10.1016/j.ctim.2018.05.004.
- Egenfeldt-Nielsen, Simon. 2006. "Overview of Research on the Educational Use of Video Games." *Nordic Journal of Digital Literacy* 1 (3): 184–214.
- ——. 2010. "The Challenges to Diffusion of Educational Computer Games." *Leading Issues in Games Based Learning* 141: 145–58.
- ———. 2011. "What Makes a Good Learning Game? Going Beyond Edutainment." *ELearn* 2011 (2).
- Eisenberger, Robert, W. David Pierce, and Judy Cameron. 1999. "Effects of Reward on Intrinsic Motivation—Negative, Neutral, and Positive: Comment on Deci, Koestner, and Ryan (1999)."
- Elo, Arpad E. 1978. The Rating of Chessplayers, Past and Present. BT Batsford Limited.
- Engström, Henrik, Björn Berg Marklund, Per Backlund, and Marcus Toftedahl. 2018. "Game Development from a Software and Creative Product Perspective: A Quantitative Literature Review Approach." *Entertainment Computing* 27 (August): 10–22. https://doi.org/10.1016/j.entcom.2018.02.008.
- Filter Forge Inc. 2019. "Filter Forge." https://www.filterforge.com/.
- Fortes Tondello, Gustavo, Deltcho Valtchanov, Adrian Reetz, Rina R Wehbe, Rita Orji, and Lennart E Nacke. 2018. "Towards a Trait Model of Video Game Preferences." *International Journal of Human–Computer Interaction* 34 (8): 732–48.
- GameDeveloper.com. 2012. "Ask Gamasutra: 84 Metacritic Need Not Apply." Game Developer. July 27, 2012. https://www.gamedeveloper.com/audio/ask-gamasutra-84-metacritic-need-not-apply.

- Gamma, Erich, Richard Helm, Ralph Johnson, Ralph E. Johnson, and John Vlissides. 1995. *Design Patterns: Elements of Reusable Object-Oriented Software*. Pearson Deutschland GmbH.
- Gee, James Paul. 2003. "What Video Games Have to Teach Us about Learning and Literacy." Computers in Entertainment (CIE) 1 (1): 20–20.
- Giambra, Leonard M., Cameron J. Camp, and Alicia Grodsky. 1992. "Curiosity and Stimulation Seeking Across the Adult Life Span: Cross-Sectional and 6- to 8-Year Longitudinal Findings." *Psychology and Aging* 7 (1): 150–57. https://doi.org/10.1037/0882-7974.7.1.150.
- Girard, Jeffrey M. 2014. "CARMA: Software for Continuous Affect Rating and Media Annotation." *Journal of Open Research Software* 2 (1): e5. https://doi.org/10.5334/jors.ar.
- Glickman, Mark E. 1999. "Parameter Estimation in Large Dynamic Paired Comparison Experiments." *Journal of the Royal Statistical Society: Series C (Applied Statistics)* 48 (3): 377–94. https://doi.org/10.1111/1467-9876.00159.
- Gómez-Maureira, Marcello. 2018. "CURIO: A Game-Based Learning Toolkit for Fostering Curiosity." In *Proceedings of the 13th International Conference on the Foundations of Digital Games*, 1–6. Malmö Sweden: ACM. https://doi.org/10.1145/3235765.3235823.
- Gómez-Maureira, Marcello A., and Isabelle Kniestedt. 2019. "Exploring Video Games That Invoke Curiosity." *Entertainment Computing* 32 (December): 100320. https://doi.org/10.1016/j.entcom.2019.100320.
- Gómez-Maureira, Marcello A., Isabelle Kniestedt, Sandra Dingli, Danielle M. Farrugia, and Björn B. Marklund. 2020. "CURIO 2.0: A Local Network Multiplayer Game Kit to Encourage Inquisitive Mindsets." In *International Conference on the Foundations of Digital Games*, 1–10. FDG '20. New York, NY, USA: Association for Computing Machinery. https://doi.org/10.1145/3402942.3403003.
- Gómez-Maureira, Marcello A., Isabelle Kniestedt, Max J. van Duijn, Carolien Rieffe, and Aske Plaat. 2019. "Shinobi Valley: Studying Curiosity For Virtual Spatial Exploration Through A Video Game." In *Extended Abstracts of the Annual Symposium*

- on Computer-Human Interaction in Play Companion Extended Abstracts, 421–28. Barcelona Spain: ACM. https://doi.org/10.1145/3341215.3356276.
- Gómez-Maureira, Marcello A., Isabelle Kniestedt, Max van Duijn, Carolien Rieffe, and Aske Plaat. 2021. "Level Design Patterns That Invoke Curiosity-Driven Exploration: An Empirical Study Across Multiple Conditions." *Proceedings of the ACM on Human-Computer Interaction* 5 (CHI PLAY): 271:1–32. https://doi.org/10.1145/3474698.
- Gómez-Maureira, Marcello, Max van Duijn, Carolien Rieffe, and Aske Plaat. 2022. "Academic Games Mapping the Use of Video Games in Academic Contexts." In *International Conference on the Foundations of Digital Games*. FDG '22. Association for Computing Machinery.
- Gómez-Maureira, Marcello, and Isabelle Kniestedt. 2018. "Games That Make Curious: An Exploratory Survey into Digital Games That Invoke Curiosity." In *Entertainment Computing ICEC 2018*, edited by Esteban Clua, Licinio Roque, Artur Lugmayr, and Pauliina Tuomi, 76–89. Lecture Notes in Computer Science. Cham: Springer International Publishing. https://doi.org/10.1007/978-3-319-99426-0_7.
- Granic, Isabela, Adam Lobel, and Rutger CME Engels. 2014. "The Benefits of Playing Video Games." *American Psychologist* 69 (1): 66.
- Gray, Wayne D. 2017. "Game-XP: Action Games as Experimental Paradigms for Cognitive Science." *Topics in Cognitive Science* 9 (2): 289–307. https://doi.org/10.1111/tops.1 2260.
- Greenwood-Ericksen, Adams, Scott R. Poorman, and Roy Papp. 2013. "On the Validity of Metacritic in Assessing Game Value." *Eludamos: Journal for Computer Game Culture* 7 (1): 101–27. https://doi.org/10.7557/23.6150.
- Grossnickle, Emily M. 2016. "Disentangling Curiosity: Dimensionality, Definitions, and Distinctions From Interest in Educational Contexts." *Educational Psychology Review* 28 (1): 23–60.
- Gualeni, Stefano. 2018. "A Philosophy of 'Doing' in the Digital." In *Towards a Philosophy of Digital Media*, edited by Alberto Romele and Enrico Terrone, 225–55. Cham: Springer International Publishing. https://doi.org/10.1007/978-3-319-75759-9_12.

- Harteveld, Casper. 2011. *Triadic Game Design: Balancing Reality, Meaning and Play.* Springer Science & Business Media.
- Hawkins, Guy E., Babette Rae, Keith V. Nesbitt, and Scott D. Brown. 2013. "Gamelike Features Might Not Improve Data." *Behavior Research Methods* 45 (2): 301–18. https://doi.org/10.3758/s13428-012-0264-3.
- Herbrich, Ralf, Tom Minka, and Thore Graepel. 2007. "TrueSkill(TM): A Bayesian Skill Rating System." In *Advances in Neural Information Processing Systems 20*, Advances in Neural Information Processing Systems 20, 569–76. MIT Press. https://www.microsoft.com/en-us/research/publication/trueskilltm-a-bayesian-skill-rating-system/.
- Hicks, Kieran, Patrick Dickinson, Jussi Holopainen, and Kathrin Gerling. 2018. "Good Game Feel: An Empirically Grounded Framework for Juicy Design." In. http://eprint s.lincoln.ac.uk/id/eprint/31957/.
- Huizinga, Johan. 1971. *Homo ludens: A Study of the Play-Element in Culture*. 30th ed. Boston: The Beacon Press.
- Inan, Ilhan. 2013. The Philosophy of Curiosity. Routledge.
- Invector. 2019. "Third Person Controller." https://assetstore.unity.com/packages/tool s/game-toolkits/third-person-controller-basic-locomotion-free-82048.
- Iuppa, Nick, and Terry Borst. 2012. *End-to-End Game Development*. Edited by Chris Simpson. Routledge. https://doi.org/10.4324/9780080952246.
- Ivory, James D. 2013. "Video Games as a Multifaceted Medium: A Review of Quantitative Social Science Research on Video Games and a Typology of Video Game Research Approaches." *Review of Communication Research* 1: 31–68.
- Järvelä, Simo, Inger Ekman, J. Matias Kivikangas, and Niklas Ravaja. 2015. "Stimulus Games." In *Game Research Methods*, 193–205.
- JASP Team. 2020. "JASP." https://jasp-stats.org/.
- Jeffreys, Harold. 1961. Theory of Probability. 3rd ed. Oxford University Press.

- Jirout, Jamie, and David Klahr. 2012. "Children's Scientific Curiosity: In Search of an Operational Definition of an Elusive Concept." *Developmental Review* 32 (2): 125–60.
- Juul, Jesper. 2010. A Casual Revolution: Reinventing Video Games and Their Players. MIT press.
- Karpouzis, Kostas, and Georgios N. Yannakakis. 2016. Emotion in Games. Springer.
- Kashdan, Todd B., and John E. Roberts. 2004. "Trait and State Curiosity in the Genesis of Intimacy: Differentiation from Related Constructs." *Journal of Social and Clinical Psychology* 23 (6): 792–816.
- Kashdan, Todd B., Melissa C. Stiksma, David J. Disabato, Patrick E. McKnight, John Bekier, Joel Kaji, and Rachel Lazarus. 2018. "The Five-Dimensional Curiosity Scale: Capturing the Bandwidth of Curiosity and Identifying Four Unique Subgroups of Curious People." *Journal of Research in Personality* 73 (April): 130–49. https://doi.org/10.1016/j.jrp.2017.11.011.
- Kato, Pamela M. 2010. "Video Games in Health Care: Closing the Gap." *Review of General Psychology* 14 (2): 113–21. https://doi.org/10.1037/a0019441.
- Kawatsu, Christopher, Robert Hubal, and Robert P. Marinier. 2018. "Predicting Students' Decisions in a Training Simulation: A Novel Application of TrueSkill." *IEEE Transactions on Games* 10 (1): 97–100. https://doi.org/10.1109/TCIAIG.2017.2680843.
- Kawrykow, Alexander, Gary Roumanis, Alfred Kam, Daniel Kwak, Clarence Leung, Chu Wu, Eleyine Zarour, et al. 2012. "Phylo: A Citizen Science Approach for Improving Multiple Sequence Alignment." Edited by Pawel Michalak. *PLoS ONE* 7 (3): e31362. https://doi.org/10.1371/journal.pone.0031362.
- Ke, Fengfeng, and Jewoong Moon. 2018. "Virtual Collaborative Gaming as Social Skills Training for High-Functioning Autistic Children." *British Journal of Educational Technology* 49 (4): 728–41.
- Kickmeier-Rust, Michael D., Elke Mattheiss, Christina Steiner, and Dietrich Albert. 2011. "A Psycho-Pedagogical Framework for Multi-Adaptive Educational Games:" *Interna-*

- tional Journal of Game-Based Learning 1 (1): 45–58. https://doi.org/10.4018/ijgbl. 2011010104.
- Kirriemuir, John, and Angela McFarlane. 2003. "Use of Computer and Video Games in the Classroom." In *DiGRA Conference*, 1–12.
- Kivikangas, J Matias, Guillaume Chanel, Ben Cowley, Inger Ekman, Mikko Salminen, Simo Järvelä, and Niklas Ravaja. 2011. "A Review of the Use of Psychophysiological Methods in Game Research." *Journal of Gaming & Virtual Worlds* 3 (3): 181–99.
- Klimmt, Christoph. 2003. "Dimensions and Determinants of the Enjoyment of Playing Digital Games: A Three-Level Model." In *Level up: Digital Games Research Conference*, 246–57.
- Klopfer, Eric, Scot Osterweil, and Katie Salen. 2009. "Moving Learning Games Forward." *Cambridge, MA: The Education Arcade*.
- Ko, Seonju. 2002. "An Empirical Analysis of Children's Thinking and Learning in a Computer Game Context." *Educational Psychology* 22 (2): 219–33.
- Koster, Raph. 2014. *A theory of fun for game design*. 2. ed. Sebastopol, Calif: O'Reilly Media.
- Kreimeier, Bernd. 2002. "The Case For Game Design Patterns." GameDeveloper.com. March 13, 2002. https://www.gamedeveloper.com/design/the-case-for-gamedesign-patterns.
- Kreitler, Schulamith, Edward Zigler, and Hans Kreitler. 1975a. "The Nature of Curiosity in Children." *Journal of School Psychology* 13 (3): 185–200.
- ——. 1975b. "The Nature of Curiosity in Children." *Journal of School Psychology* 13 (3): 185–200.
- Krobová, Tereza, Ondřej Moravec, and Jaroslav Švelch. 2015. "Dressing Commander Shepard in Pink: Queer Playing in a Heteronormative Game Culture." *Cyberpsychology: Journal of Psychosocial Research on Cyberspace* 9 (3).
- Lazzaro, Nicole. 2009. "Why We Play: Affect and the Fun of Games." *Human-Computer Interaction: Designing for Diverse Users and Domains* 155: 679–700.

- Lee, Heungsub. 2015. "TrueSkill Python Package." http://trueskill.org/.
- Levy, Laura, Amy Lambeth, Rob Solomon, and Maribeth Gandy. 2018. "Method in the Madness: The Design of Games as Valid and Reliable Scientific Tools." In *Proceedings of the 13th International Conference on the Foundations of Digital Games*, 1–10. Malmö Sweden: ACM. https://doi.org/10.1145/3235765.3235793.
- Li, Jiaqi, Sotirios Piliouras, Semma Raadschelders, Vivian I. Dap, Claudia A. Libbi, and Marcello A. Gómez-Maureira. 2022. "Through Troubled Waters: A Narrative Game for Anger Regulation." In *Entertainment Computing ICEC 2022*.
- Lieberoth, Andreas. 2015. "Shallow Gamification: Testing Psychological Effects of Framing an Activity as a Game." *Games and Culture* 10 (3): 229–48. https://doi.org/10.1 177/1555412014559978.
- Litman, Jordan A. 2008. "Interest and Deprivation Factors of Epistemic Curiosity." *Personality and Individual Differences* 44 (7): 1585–95.
- Litman, Jordan A., Robert P. Collins, and Charles D. Spielberger. 2005. "The Nature and Measurement of Sensory Curiosity." *Personality and Individual Differences* 39 (6): 1123–33.
- Litman, Jordan A., and Tiffany L. Jimerson. 2004. "The Measurement of Curiosity As a Feeling of Deprivation." *Journal of Personality Assessment* 82 (2): 147–57. https://doi.org/10.1207/s15327752jpa8202_3.
- Litman, Jordan A., and Paul J. Silvia. 2006. "The Latent Structure of Trait Curiosity: Evidence for Interest and Deprivation Curiosity Dimensions." *Journal of Personality Assessment* 86 (3): 318–28.
- Loewenstein, George. 1994. "The Psychology of Curiosity: A Review and Reinterpretation." *Psychological Bulletin* 116 (1): 75.
- Lönngren, Johanna, and Katrien Van Poeck. 2021. "Wicked Problems: A Mapping Review of the Literature." *International Journal of Sustainable Development & World Ecology* 28 (6): 481–502.
- Lopes, Ricardo. 2010. "Scenario Adaptivity in Serious Games." In *Proceedings of the Fifth International Conference on the Foundations of Digital Games FDG '10*, 268–70. Monterey, California: ACM Press. https://doi.org/10.1145/1822348.1822389.

- Mané, Amir, and Emanuel Donchin. 1989. "The Space Fortress Game." *Acta Psychologica* 71 (1-3): 17–22. https://doi.org/10.1016/0001-6918(89)90003-6.
- Marklund, Bjorn Berg, Per Backlund, and Henrik Engstrom. 2014. "The Practicalities of Educational Games: Challenges of Taking Games into Formal Educational Settings." In 2014 6th International Conference on Games and Virtual Worlds for Serious Applications (VS-GAMES), 1–8. https://doi.org/10.1109/VS-Games.2014.7012170.
- Marshall, Martin N. 1996. "Sampling for Qualitative Research." *Family Practice* 13 (6): 522–26.
- Marsman, Maarten, and Eric-Jan Wagenmakers. 2017. "Bayesian Benefits with JASP." European Journal of Developmental Psychology 14 (5): 545–55.
- Mäyrä, Frans. 2008. An Introduction to Game Studies: Games in Culture. London: SAGE.
- Mäyrä, Game Studies Frans. 2008. "Getting into the Game: Doing Multidisciplinary Game Studies." In *The Video Game Theory Reader 2*, 335–52. Routledge.
- McAuley, Edward, Terry Duncan, and Vance V. Tammen. 1989. "Psychometric Properties of the Intrinsic Motivation Inventory in a Competitive Sport Setting: A Confirmatory Factor Analysis." *Research Quarterly for Exercise and Sport* 60 (1): 48–58.
- McClarty, Katie Larsen, Aline Orr, Peter M. Frey, Robert P. Dolan, Victoria Vassileva, and Aaron McVay. 2012. "A Literature Review of Gaming in Education." *Gaming in Education*, 1–35.
- McGonigal, Jane. 2011. Reality Is Broken: Why Games Make Us Better and How They Can Change the World. Penguin.
- Metacritic.com. 2018. "Best Video Games of All Time," 2018. http://www.metacritic.com/browse/games/score/metascore/all/all/filtered.
- Michaud, Laurent, and Julian Alvarez. 2008. "Serious Games." Advergaming, Edugaming, Training. IDATE Consulting & Research.
- Mohseni, M. Rohangis, Benny Liebold, and Daniel Pietschmann. 2015. "Extensive Modding for Experimental Game Research." In *Game Research Methods*, 323–40. Pittsburgh, PA, USA: ETC Press.

- Moritzen, Karina. 2022. "Opening Up Virtual Mosh Pits: Music Scenes and In-Game Concerts in Fortnite and Minecraft." *Journal of Sound and Music in Games* 3 (2-3): 115–40.
- Moser, Christiane, Verena Fuchsberger, and Manfred Tscheligi. 2012. "Rapid Assessment of Game Experiences in Public Settings." In *Proceedings of the 4th International Conference on Fun and Games*, 73–82.
- Mozelius, Peter. 2014. "Game Based Learning-a Way to Stimulate Intrinsic Motivation." In *International Conference on e-Learning*, 272. Academic Conferences International Limited.
- Nacke, Lennart E., Chris Bateman, and Regan L. Mandryk. 2011. "BrainHex: Preliminary Results from a Neurobiological Gamer Typology Survey." In *International Conference on Entertainment Computing*, 288–93. Springer.
- Nebel, Steve, Sascha Schneider, and Günter Daniel Rey. 2016. "Mining Learning and Crafting Scientific Experiments: A Literature Review on the Use of Minecraft in Education and Research." *Journal of Educational Technology & Society* 19 (2): 355–66.
- Newman, James. 2002. "The Myth of the Ergodic Videogame." *Game Studies* 2 (1): 1–17.
- Nicoll, Benjamin. 2019. "Videogame Engines and the Politics of 'Democratised' Software Development." *AoIR Selected Papers of Internet Research*.
- Nicoll, Benjamin, and Brendan Keogh. 2019. *The Unity Game Engine and the Circuits of Cultural Software*. Cham: Springer International Publishing. https://doi.org/10.1007/978-3-030-25012-6.
- Nystrom, Robert. 2014. Game Programming Patterns. Genever Benning.
- O'Hagan, Anthony. 2008. "The Bayesian Approach to Statistics." *Handbook of Probability: Theory and Applications*, 85–100.
- OECD. 2016. "PISA 2015 Results in Focus." https://www.oecd.org/pisa/pisa-2015-results-in-focus.pdf.
- OpenJS Foundation. 2019. "Electron." https://electronjs.org.

- Phan, Mikki H., Joseph R. Keebler, and Barbara S. Chaparro. 2016. "The Development and Validation of the Game User Experience Satisfaction Scale (GUESS)." *Human Factors* 58 (8): 1217–47. https://doi.org/10.1177/0018720816669646.
- Politopoulos, Aris, Csilla Ariese, Krijn Boom, and Angus Mol. 2019. "Romans and Roller-coasters: Scholarship in the Digital Playground." *Journal of Computer Applications in Archaeology* 2 (1): 163–75. https://doi.org/10.5334/jcaa.35.
- Porter, David B. 1995. "Computer Games: Paradigms of Opportunity." *Behavior Research Methods, Instruments, & Computers* 27 (2): 229–34. https://doi.org/10.3758/BF03204737.
- Procedural Worlds. 2019. "Gaia 2." https://assetstore.unity.com/packages/tools/terrai n/gaia-2-terrain-scene-generator-42618.
- Proctor, Michael D., and Yaela Marks. 2013. "A Survey of Exemplar Teachers' Perceptions, Use, and Access of Computer-Based Games and Technology for Classroom Instruction." *Computers & Education* 62: 171–80.
- Prolific. 2021. "Prolific Online Participant Recruitment for Surveys and Market Research." 2021. https://www.prolific.co/.
- Prpic, Valter, Isabelle Kniestedt, Elizabeth Camilleri, Marcello Gómez Maureira, Árni Kristjánsson, and Ian M. Thornton. 2019. "A Serious Game to Explore Human Foraging in a 3d Environment." *PLOS ONE* 14 (7): e0219827. https://doi.org/10.1371/journal.pone.0219827.
- Quispe, Laura Cruz, and Jose Eduardo Ochoa Luna. 2015. "A Content-Based Recommendation System Using TrueSkill." In 2015 Fourteenth Mexican International Conference on Artificial Intelligence (MICAI), 203–7. https://doi.org/10.1109/MICAI.2015.37.
- Raffert, Anna, Matei Zaharia, and Thomas Griffiths. 2012. "Optimally Designing Games for Cognitive Science Research." *Proceedings of the Annual Meeting of the Cognitive Science Society* 34 (34). https://escholarship.org/uc/item/42r005ng.
- Raith, Lisa, Julie Bignill, Vasileios Stavropoulos, Prudence Millear, Andrew Allen, Helen M Stallman, Jonathan Mason, Tamara De Regt, Andrew Wood, and Lee Kannis-

- Dymand. 2021. "Massively Multiplayer Online Games and Well-Being: A Systematic Literature Review." *Frontiers in Psychology* 12: 2369.
- Rayfield, Donald. 1999. *Understanding Chekhov: a critical study of Chekhov's prose and drama*. Madison, Wis: University of Wisconsin Press.
- Reback, Jeff, Wes McKinney, jbrockmendel, Joris Van den Bossche, Tom Augspurger, Phillip Cloud, gfyoung, et al. 2021. "Pandas-Dev/Pandas: Pandas 1.2.2." Zenodo. ht tps://doi.org/10.5281/zenodo.4524629.
- Reio Jr., Thomas G., Joseph M. Petrosko, Albert K. Wiswell, and Juthamas Thongsukmag. 2006. "The Measurement and Conceptualization of Curiosity." *The Journal of Genetic Psychology* 167 (2): 117–35. https://doi.org/10.3200/GNTP.167.2.117-135.
- Reio, Thomas G., and Jamie L. Callahan. 2004. "Affect, Curiosity, and Socialization-Related Learning: A Path Analysis of Antecedents to Job Performance." *Journal of Business and Psychology* 19 (1): 3–22.
- Reuderink, Boris, Anton Nijholt, and Mannes Poel. 2009. "Affective Pacman: A Frustrating Game for Brain-Computer Interface Experiments." In *International Conference on Intelligent Technologies for Interactive Entertainment*, 221–27. Springer.
- Rheinberg, Falko, and Stefan Engeser. 2018. "Intrinsic Motivation and Flow." In *Motivation and Action*, edited by Jutta Heckhausen and Heinz Heckhausen, 579–622. Cham: Springer International Publishing. https://doi.org/10.1007/978-3-319-65094-4_14.
- Risi, Sebastian, and Mike Preuss. 2020. "From Chess and Atari to StarCraft and Beyond: How Game AI Is Driving the World of AI." *KI Künstliche Intelligenz* 34 (1): 7–17. https://doi.org/10.1007/s13218-020-00647-w.
- Ritterfeld, Ute, Michael J. Cody, and Peter Vorderer, eds. 2009. *Serious Games: Mechanisms and Effects*. New York: Routledge.
- Rogerson, Melissa J., Lucy A. Sparrow, and Martin R. Gibbs. 2021. "Unpacking 'Boardgames with Apps': The Hybrid Digital Boardgame Model." In *Proceedings of the 2021 CHI Conference on Human Factors in Computing Systems*,

- 1–17. CHI '21. New York, NY, USA: Association for Computing Machinery. https://doi.org/10.1145/3411764.3445077.
- Roland09. 2019. "PathPaintTool." https://github.com/Roland09/PathPaintTool.
- Rowe, Willa. 2022. "New The Sims 4 Update Makes It the Most Inclusive Franchise in Gaming." Inverse. 2022. https://www.inverse.com/gaming/the-sims-4-pronouns-update-most-inclusive-franchise.
- Rubin, Zak, and Sri Kurniawan. 2013. "Speech Adventure: Using Speech Recognition for Cleft Speech Therapy." In *Proceedings of the 6th International Conference on PErvasive Technologies Related to Assistive Environments*, 1–4.
- Russell, Lia. 2022. "There Is No Housing Crisis in 'Animal Crossing'." Curbed. April 21, 2022. https://archive.curbed.com/2020/4/21/21227923/animal-crossing-house-coronavirus-home-quarantine.
- Ryan, Richard M, C Scott Rigby, and Andrew Przybylski. 2006. "The Motivational Pull of Video Games: A Self-Determination Theory Approach." *Motivation and Emotion* 30 (4): 344–60.
- Ryan, William, and Dennis Charsky. 2013. "Integrating Serious Content into Serious Games." In, 330–37.
- Salen, Katie, and Eric Zimmerman. 2005. "Game Design and Meaningful Play." *Handbook of Computer Game Studies* 59: 79.
- Salen Tekinbaş, Katie, and Eric Zimmerman. 2003. *Rules of Play: Game Design Fundamentals*. Cambridge, Mass: MIT Press.
- Schaekermann, Mike, Giovanni Ribeiro, Guenter Wallner, Simone Kriglstein, Daniel Johnson, Anders Drachen, Rafet Sifa, and Lennart E Nacke. 2017. "Curiously Motivated: Profiling Curiosity with Self-Reports and Behaviour Metrics in the Game Destiny." In *Proceedings of the Annual Symposium on Computer-Human Interaction in Play*, 143–56.
- Schell, Jesse. 2008. *The Art of Game Design: A Book of Lenses*. Amsterdam; Boston: Elsevier/Morgan Kaufmann.

- Schmidt, Ralf, Katharina Emmerich, and Burkhard Schmidt. 2015. "Applied Games In Search of a New Definition." In *Entertainment Computing ICEC 2015*, edited by Konstantinos Chorianopoulos, Monica Divitini, Jannicke Baalsrud Hauge, Letizia Jaccheri, and Rainer Malaka, 9353:100–111. Cham: Springer International Publishing. https://doi.org/10.1007/978-3-319-24589-8_8.
- Schmitt, Frederick F, and Reza Lahroodi. 2008. "The Epistemic Value of Curiosity." *Educational Theory* 58 (2): 125–48.
- Scholten, Hanneke, Maartje Luijten, and Isabela Granic. 2019. "A Randomized Controlled Trial to Test the Effectiveness of a Peer-Based Social Mobile Game Intervention to Reduce Smoking in Youth." *Development and Psychopathology* 31 (5): 1923–43. https://doi.org/10.1017/S0954579419001378.
- Schönbrodt, Felix D., and Eric-Jan Wagenmakers. 2018. "Bayes Factor Design Analysis: Planning for Compelling Evidence." *Psychonomic Bulletin & Review* 25 (1): 128–42. https://doi.org/10.3758/s13423-017-1230-y.
- Scott, Graham G., Anne Keitel, Marc Becirspahic, Bo Yao, and Sara C. Sereno. 2019. "The Glasgow Norms: Ratings of 5,500 Words on Nine Scales." *Behavior Research Methods* 51 (3): 1258–70. https://doi.org/10.3758/s13428-018-1099-3.
- SeatGeek. 2017. "FuzzyWuzzy." https://github.com/seatgeek/fuzzywuzzy.
- Seif El-Nasr, Magy, Heather Desurvire, Lennart Nacke, Anders Drachen, Licia Calvi, Katherine Isbister, and Regina Bernhaupt. 2012. "Game User Research." In CHI '12 Extended Abstracts on Human Factors in Computing Systems, 2679–82. CHI EA '12. New York, NY, USA: Association for Computing Machinery. https://doi.org/10.1145/2212776.2212694.
- Shank, Daniel B. 2016. "Using Crowdsourcing Websites for Sociological Research: The Case of Amazon Mechanical Turk." *The American Sociologist* 47 (1): 47–55. https://doi.org/10.1007/s12108-015-9266-9.
- Shapley, Kelly, Daniel Sheehan, Catherine Maloney, and Fanny Caranikas-Walker. 2011. "Effects of Technology Immersion on Middle School Students' Learning Opportunities and Achievement." *The Journal of Educational Research* 104 (5): 299–315. https://doi.org/10.1080/00220671003767615.

- Silva, José Fernando, João Emílio Almeida, Rosaldo JF Rossetti, and António Leça Coelho. 2013. "A Serious Game for EVAcuation Training." In 2013 IEEE 2nd International Conference on Serious Games and Applications for Health (SeGAH), 1–6.
- Sinclair, Jeff, Philip Hingston, and Martin Masek. 2007. "Considerations for the Design of Exergames." In *Proceedings of the 5th International Conference on Computer Graphics and Interactive Techniques in Australia and Southeast Asia*, 289–95. GRAPHITE '07. New York, NY, USA: Association for Computing Machinery. https://doi.org/10.1145/1321261.1321313.
- Spielberger, Charles D, and Laura M Starr. 1994. "Curiosity and Exploratory Behavior." *Motivation: Theory and Research*, 221–43.
- Spiers, Hugo J., Antoine Coutrot, and Michael Hornberger. 2021. "Explaining World-Wide Variation in Navigation Ability from Millions of People: Citizen Science Project Sea Hero Quest." *Topics in Cognitive Science*. https://doi.org/10.1111/tops.12590.
- Square Off, Inc. 2022. "World's Smartest Chessboard | Square Off." Square Off. 2022. ht tp://squareoffnow.com.
- Steinkuehler, Constance A., and Dmitri Williams. 2006. "Where Everybody Knows Your (Screen) Name: Online Games as 'Third Places'." *Journal of Computer-Mediated Communication* 11 (4): 885–909.
- Stenros, Jaakko. 2017. "The Game Definition Game: A Review." *Games and Culture* 12 (6): 499–520.
- SurveyCircle. 2021. "SurveyCircle The Largest Community for Online Research." 2021. https://www.surveycircle.com/en/.
- Takeuchi, Lori M, and Sarah Vaala. 2014. "Level up Learning: A National Survey on Teaching with Digital Games." In *Joan Ganz Cooney Center at Sesame Workshop*.
- Tampuu, Ardi, Tambet Matiisen, Dorian Kodelja, Ilya Kuzovkin, Kristjan Korjus, Juhan Aru, Jaan Aru, and Raul Vicente. 2017. "Multiagent Cooperation and Competition with Deep Reinforcement Learning." *PLOS ONE* 12 (4): e0172395. https://doi.org/10.1371/journal.pone.0172395.

- Tavinor, Grant. 2008. "Definition of Videogames." *Contemporary Aesthetics (Journal Archive)* 6 (1): 16.
- Terlutter, Ralf, and Michael L. Capella. 2013. "The Gamification of Advertising: Analysis and Research Directions of In-Game Advertising, Advergames, and Advertising in Social Network Games." *Journal of Advertising* 42 (2-3): 95–112. https://doi.org/10.1080/00913367.2013.774610.
- To, Alexandra, Ali Safinah, Geoff F Kaufman, and Jessica Hammer. 2016. "Integrating Curiosity and Uncertainty in Game Design." In *Proceedings of 1st International Joint Conference of DiGRA and FDG*, 1–16.
- Tobias, Sigmund, J. D. Fletcher, David Yun Dai, and Alexander P. Wind. 2011. "Review of Research on Computer Games." In *Computer Games and Instruction*, 127–221. Charlotte, NC, US: IAP Information Age Publishing.
- Tobias, Sigmund, J. Dexter Fletcher, and Alexander P. Wind. 2014. "Game-Based Learning." In *Handbook of Research on Educational Communications and Technology*, edited by J. Michael Spector, M. David Merrill, Jan Elen, and M. J. Bishop, 485–503. New York, NY: Springer. https://doi.org/10.1007/978-1-4614-3185-5_38.
- Tondello, Gustavo F, and Lennart E Nacke. 2019. "Player Characteristics and Video Game Preferences." In *Proceedings of the Annual Symposium on Computer-Human Interaction in Play*, 365–78.
- Tsita, Christina, and Maya Satratzemi. 2019. "Conceptual Factors for the Design of Serious Games." In *Games and Learning Alliance*, edited by Manuel Gentile, Mario Allegra, and Heinrich Söbke, 11385:232–41. Cham: Springer International Publishing. https://doi.org/10.1007/978-3-030-11548-7_22.
- Unity Technologies. 2018. "Unity." https://unity.com/.
- Vinyals, Oriol, Igor Babuschkin, Junyoung Chung, Michael Mathieu, Max Jaderberg, Wojciech M. Czarnecki, Andrew Dudzik, Aja Huang, Petko Georgiev, and Richard Powell. 2019. "AlphaStar: Mastering the Real-Time Strategy Game StarCraft II." DeepMind Blog. 2019. https://www.deepmind.com/blog/alphastar-mastering-the-real-time-strategy-game-starcraft-ii.

- Wagner, Michael G., and Thomas Wernbacher. 2013. "Iterative Didactic Design of Serious Games." In *FDG*, 346–51.
- Washburn, David A. 2003. "The Games Psychologists Play (and the Data They Provide)." *Behavior Research Methods, Instruments, & Computers* 35 (2): 185–93. https://doi.org/10.3758/BF03202541.
- Wattanasoontorn, Voravika, Imma Boada, Rubén García, and Mateu Sbert. 2013. "Serious Games for Health." *Entertainment Computing* 4 (4): 231–47. https://doi.org/10.1016/j.entcom.2013.09.002.
- Wesp, Edward. 2014. "A Too-Coherent World: Game Studies and the Myth of 'Narrative' Media." *Game Studies* 14 (2).
- Wilkinson, Phil. 2016. "A Brief History of Serious Games." *Entertainment Computing and Serious Games*, 17–41.
- Williams, Andrew. 2017. *History of Digital Games: Developments in Art, Design and Interaction*. Boca Raton, FL: CRC Press, Taylor & Francis Group, an A K Peters Book.
- Williams-Bell, F Michael, Bill Kapralos, Andrew Hogue, BM Murphy, and EJ Weckman. 2015. "Using Serious Games and Virtual Simulation for Training in the Fire Service: A Review." *Fire Technology* 51 (3): 553–84.
- Wolf, Mark J. P., ed. 2008. *The Video Game Explosion: A History from PONG to PlayStation and Beyond*. Westport, Conn: Greenwood Press.
- ———, ed. 2012. *Before the Crash: Early Video Game History*. Detroit: Wayne State University Press.
- Yannakakis, Georgios N., and Héctor P. Martínez. 2015. "Ratings Are Overrated!" *Frontiers in ICT* 2. https://www.frontiersin.org/article/10.3389/fict.2015.00013.
- Yee, Nick. 2015. "Gamer Motivation Model Overview and Descriptions." Quantic Foundry. 2015. http://quanticfoundry.com/2015/12/15/handy-reference.
- Young, Michael F., Stephen Slota, Andrew B. Cutter, Gerard Jalette, Greg Mullin, Benedict Lai, Zeus Simeoni, Matthew Tran, and Mariya Yukhymenko. 2012. "Our Princess Is in Another Castle: A Review of Trends in Serious Gaming for Education." *Review of Educational Research* 82 (1): 61–89. https://doi.org/10.3102/0034654312436980.

Zimmerman, John, Jodi Forlizzi, and Shelley Evenson. 2007. "Research Through Design as a Method for Interaction Design Research in HCI." In *Proceedings of the SIGCHI Conference on Human Factors in Computing Systems*, 493–502.

Zuckerman, Marvin. 2007. "The Sensation Seeking Scale V (SSS-V): Still Reliable and Valid." *Personality and Individual Differences* 43 (5): 1303–5. https://doi.org/10.1016/j.paid.2007.03.021.

Ludography

- 2K Boston, and 2K Australia. 2007. "BioShock." [PlayStation 3, Xbox 360, Windows, Mac OS X, iOS].
- 2K Marin. 2010. "BioShock 2." [PlayStation 3, Xbox 360, Windows, Mac OS X].
- Atari. 1972. "Pong." [Arcade, multiple consoles].
- Bethesda Game Studios. 2006. "The Elder Scrolls IV: Oblivion." [Windows, PlayStation 3, Xbox 360].
- ——. 2011. "The Elder Scrolls V: Skyrim." [Windows, PlayStation 3 & 4, Xbox 360 / One / Series X & S, Nintendo Switch].
- BioWare. 2007. "Mass Effect." [Xbox 360, PlayStation 3, Windows].
- ——. 2010. "Mass Effect 2." [Xbox 360, PlayStation 3, Windows].
- ——. 2012. "Mass Effect 3." [Xbox 360, PlayStation 3, Windows, Wii U].
- Blizzard Entertainment. 2004. "World of WarCraft." [Windows, Mac OS X].
- ———. 2010. "Starcraft II: Wings of Liberty."
- Daniel Mullins Games. 2021. "Inscryption." [Linux, macOS, Windows, PlayStation 4/5].
- Dimps, and Capcom. 2008. "Street Fighter IV." [Arcade, PlayStation 3 & 4, Xbox 360 & One, Windows, iOS, Android].
- Epic Games. 2017. "Fortnite." [PlayStation 4, Xbox One, Windows, Mac OS X].
- From Software. 2011. "Dark Souls." [PlayStation 3/4, Xbox 360/One, Windows, Nintendo Switch].

```
——. 2022. "Elden Ring." [PlayStation 4/5, Xbox One/X/S, Windows].
Gualeni, Stefano. 2017. "Something Something Soup Something." [WebGL]. https://so
   up.gua-le-ni.com.
Guerilla Games. 2017. "Horizon: Zero Dawn." [Playstation 4].
Hitmaker. 1999. "Crazy Taxi." [Arcade, Dreamcast, PlayStation 2/3, GameCube, Xbox
   360, Windows, mobile].
Imangi Studios. 2011. "Temple Run." [iOS, Android, Windows Phone, Tizen, Win-
   dows].
Infinity Ward. 2007. "Call of Duty 4: Modern Warfare." [Windows, PlayStation 3, Xbox
   360, Mac OS X, Wii].
---. 2009. "Call of Duty: Modern Warfare 2." [Windows, PlayStation 3 & 4, Xbox 360 &
   One, macOS].
Irrational Games. 2013. "BioShock Infinite." [PlayStation 3, Xbox 360, Windows, OS X,
   Linux].
Kojima Productions. 2015. "Metal Gear Solid V: The Phantom Pain." [Windows, PlaySta-
   tion 3 & 4, Xbox 360 & One].
Maxis. 2000. "The Sims." [Windows, macOS, PlayStation 2, Xbox, GameCube].
——. 2014. "The Sims 4." [Windows, macOS, PlayStation 4, Xbox One].
Media Molecule. 2008. "LittleBigPlanet." [PlayStation 3 / 4 / 5 / Portable / Vita].
——. 2011. "LittleBigPlanet 2." [PlayStation 3].
Mojang. 2011. "Minecraft." [Windows, macOS, Linux].
Mojang Studios. 2016. "Minecraft Education Edition." [Windows, macOS]. https://educ
   ation.minecraft.net.
```

Naughty Dog. 2007. "Uncharted: Drake's Fortune." [PlayStation 3].

——. 2009. "Uncharted 2: Among Thieves." [PlayStation 3].

——. 2011. "Uncharted 3: Drake's Deception." [PlayStation 3].

```
———. 2013. "The Last of Us." [PlayStation 3 & 4].
```

---. 2016. "Uncharted 4: A Thief's End." [PlayStation 4].

Nintendo EAD. 2015. "Super Mario Maker."

Nintendo EAD Tokyo. 2007. "Super Mario Galaxy." [Wii].

Nintendo EPD. 2017. "Super Mario Odyssey." [Nintendo Switch].

———. 2017. "The Legend of Zelda: Breath of the Wild." [Nintendo Switch, Wii U].

——. 2020. "Animal Crossing: New Horizons." [Nintendo Switch].

ovos realtime3D GmbH. 2013. "Ludwig." [Windows]. https://www.playludwig.com/e n.

Roblox Corporation. 2006. "Roblox." https://www.roblox.com/.

Rockstar North. 2008. "Grand Theft Auto IV." [PlayStation 3, Xbox 360, Windows].

——. 2013. "Grand Theft Auto V." [PlayStation 3 / 4 / 5, Windows, Xbox 360 / One / Series X & S].

Rockstar San Diego. 2010. "Red Dead Redemption." [PlayStation 3, Xbox 360].

Rocksteady Studios. 2009. "Batman: Arkham Asylum." [PlayStation 3 & 4, Xbox 360 & One, Windows, macOS].

——. 2011. "Batman: Arkham City." [PlayStation 3 & 4, Xbox 360 & One, Wii U, Windows, macOS].

Sawyer, Chris. 1999. "RollerCoaster Tycoon." [Windows, Xbox, macOS, iOS, Nintendo 3DS / Switch, Android].

Six to Start. 2012. "Zombies, Run!" https://zombiesrungame.com/.

Sucker Punch Productions. 2020. "Ghost of Tsushima." [PlayStation 4/5].

Thatgamecompany. 2012. "Journey." [PlayStation 3/4, Windows, iOS].

Thekla, Inc. 2016. "The Witness." [PlayStation 4, Windows, Xbox One, macOS, iOS].

Twinbeard Studios. 2012. "Frog Fractions." [Flash, Windows].

Two Point Studios. 2022. "Two Point Campus." [Linux, macOS, Windows, PlayStation 4/5, Xbox One/X/S].

Unknown Worlds Entertainment. 2018. "Subnautica." [macOS, Windows, Xbox One/X/S, PlayStation 4/5, Nintendo Switch].

UW Center for Game Science. 2008. "Foldit." https://fold.it/.

Valve. 2007. "Portal." [Android, Linux, macOS, Windows].

——. 2011. "Portal 2." [Windows, Mac OS X, Linux, PlayStation 3, Xbox 360, Nintendo Switch].

Acronyms

```
Five-Dimensional Curiosity Scale. 20, 21, 22, 57, 66, 67, 70, 74, 77, 78, 84, 85, 86, 88, 97, 173, 184, 194, 225
ESFQ Extended Short Feedback Questionnaire. 46, 48, 49
GBL Game-Based Learning. 15, 16, 25, 26, 29, 36, 52, 54, 55, 201
GUESS Game User Experience Satisfaction Scale. 173, 177, 184, 185, 187, 194, 197
GUR Game User Research. 5, 205
OSF Open Science Framework. 119, 175, 180
PIR Pattern Instantiation Region. 125, 140, 141, 147, 152, 153, 154, 176, 181, 182, 183, 184, 186, 188, 189, 191, 192, 193
STEM Science, Technology, Engineering, and Mathematics. 23, 25, 27, 31
```